

Claims

1. A gas generating composition comprising the following components (a), (b) and (c) and optionally the component (d) and/or the component (e):

- (a) an organic compound as fuel,
- (b) an oxygen-containing oxidizing agent,
- (c) aluminum hydroxide,
- (d) a binder
- (e) an additive selected from metal oxides and metal carbides.

2. The gas generating composition as set forth in claim 1, comprising 10 to 60% by mass of the component (a), 10 to 85% by mass of the component (b), 0.1 to 20% by mass of the component (c), 20% by mass or less of the component (d) and 20% by mass or less of the component (e).

3. The gas generating composition as set forth in claim 1 or 2, wherein the organic compound (a) used as fuel is at least one selected from the group consisting of tetrazole compounds, guanidine compounds, triazine compounds and nitroamine compounds.

4. The gas generating composition as set forth in claim 1 or 2, wherein the basic metal nitrate (b) is at least one selected from the group consisting of a basic copper nitrate, a basic cobalt nitrate, a basic zinc nitrate, a basic manganese nitrate, a basic iron nitrate, a basic molybdenum nitrate, a basic bismuth nitrate and a basic cerium nitrate.

5. The gas generating composition as set forth in claim 1 or 2, comprising, as the component (b), at least one oxidizing agent selected from the group consisting of (b-1) basic metal nitrates, nitrates and ammonium nitrate and (b-2) perchlorates and chlorates.

6. The gas generating composition as set forth in claim 5, wherein the perchlorate and chlorate (b-2) is at least one selected from the group consisting of ammonium perchlorate, potassium perchlorate, sodium perchlorate, potassium chlorate and sodium chloride.

7. The gas generating composition as set forth in claim 1 or 2, wherein the binder of the component (d) is at least one selected from the group consisting of carboxymethylcellulose, sodium carboxymethylcellulose, potassium carboxymethylcellulose, ammonium carboxymethylcellulose, cellulose acetate, cellulose acetate butyrate, methylcellulose, ethylcellulose, hydroxyethylcellulose, ethylhydroxyethylcellulose, hydroxypropylcellulose, carboxymethylethylcellulose, micro-crystalline cellulose, polyacrylamide, aminated products of polyacrylamide, polyacrylhydrazide, a copolymer of acrylamide and a metal salt acrylate, a copolymer of polyacrylamide and a polyacrylic ester, polyvinyl alcohol, acrylic rubber, guar gum, starch and silicone.

8. The gas generating composition as set forth in claim 1 or 2, wherein the additive of the component (e) is at least one selected from the group consisting of metal oxides including copper (II) oxide, iron oxide, zinc oxide, cobalt oxide, manganese oxide, molybdenum oxide, nickel oxide, bismuth oxide, silica or alumina; metal hydroxides including cobalt hydroxide or iron hydroxides; metallic carbonate or basic metallic carbonate including cobalt carbonate, calcium carbonate, basic zinc carbonates or basic copper carbonates; composite compounds of metal oxides or hydroxides including acid clay, kaolin, talc, bentonite, diatomaceous earth, or hydrotalcite; metallic acid salts including sodium silicate, mica molybdate, cobalt molybdate or ammonium molybdate; silicone;

molybdenum disulfide; calcium stearate; silicon nitride and silicon carbide.

9. A molded article of a gas generating composition having a single-perforated cylindrical shape, a porous cylindrical shape or a pellet shape, the molded article being obtained from the gas generating composition as set forth in claim 1 or 2.

10. An airbag inflator, comprising:

the gas generating composition as set forth in claim 1.

11. An airbag inflator, comprising:

the molded article of a gas generating composition as set forth in claim 9.